

AMENDMENT

Please replace claims 22, 26, 30, and 31 with the following claims:

✓ 22. (Twice amended) A method for detecting a target intermediate tandem repeat DNA sequence having a low incidence of stutter artifacts, comprising the steps of:

(a) providing a sample of DNA having at least one target intermediate tandem repeat sequence, wherein the target intermediate tandem repeat sequence is a region of the DNA containing at least one repeat unit consisting of a sequence of five (5), six (6), or seven (7) base pairs repeated in tandem at least two (2) times; and

β¹ (b) amplifying the target intermediate tandem repeat sequence using at least one oligonucleotide primer, comprising a sequence which is complementary to and flanks a region of a double-stranded DNA marker containing a template intermediate tandem repeat sequence, wherein the template intermediate tandem repeat sequence is a region of the DNA marker which contains the repeat unit sequence repeated in tandem at least two (2) times, provided that the DNA marker has a sequence of SEQ ID NO:32; and

(c) detecting the target intermediate tandem repeat sequence in the sample of DNA, wherein an average stutter artifact of no more than 2.4% is observed.

26. (Twice amended) A method for detecting at least one target intermediate tandem repeat sequence in a DNA sample, wherein the target intermediate tandem repeat sequence is a region of the DNA sample which contains at least one repeat unit consisting of a sequence of five (5), six (6), or seven (7) base pairs repeated in tandem at least two (2) times; the method comprising the steps of:

β² (a) providing at least one oligonucleotide primer comprising a nucleic acid sequence which is complementary to and flanks a region of a DNA marker containing a template intermediate tandem repeat sequence, wherein the DNA marker has a sequence of SEQ ID NO:32;

(b) providing a DNA sample comprising the target intermediate tandem repeat sequence;

(c) using the at least one oligonucleotide primer to amplify the target intermediate repeat sequence of the DNA sample; and

(d) detecting polymorphisms in the amplified target intermediate tandem repeat sequence.

✓ 30. (Twice amended) The method of claim 26, wherein the oligonucleotide primer provided in step (a) comprises a sequence of SEQ ID NO:124 and SEQ ID NO:125, when the DNA marker sequence is SEQ ID NO:32.

31. (Twice amended) A kit for the detection of at least one target intermediate tandem repeat sequence in a sample of DNA, wherein the target intermediate tandem repeat sequence is a region of the sample of DNA which contains at least one repeat unit consisting of a sequence of five (5), six (6), or seven (7) base pairs repeated in tandem at least two (2) times comprising:

β3
a container which has at least one oligonucleotide primer for amplifying the at least one target intermediate tandem repeat sequence, wherein the oligonucleotide primer comprises a sequence of nucleic acids which is complementary to and flanks a region of a double-stranded DNA marker containing a template intermediate tandem repeat sequence comprising the repeat unit repeated in tandem at least two (2) times; and wherein the DNA marker has a sequence of SEQ ID NO:32.